

**IN THE CLAIMS:**

1    1-19. (CANCELLED)

1    20. (ORIGINAL) A computer readable medium containing executable program instruc-  
2    tions for use by an intermediate network device having a plurality of ports for receiving  
3    and forwarding network messages, the executable program instructions comprising pro-  
4    gram instructions for:

5               configuring one or more ports as access ports;

6               configuring one or more access ports as rapid forwarding ports;

7               identifying all ports that have been configured as access ports with rapid forward-  
8    ing; and

9               upon initialization of the device, placing each identified access port with rapid  
10    forwarding directly to a forwarding spanning tree port state, without transitioning such  
11    identified ports between any intermediary spanning tree port states, so that network mes-  
12    sages may be received and forwarded by such identified ports immediately.

1    21. (ORIGINAL) The computer readable medium of claim 20 comprising further pro-  
2    gram instructions for:

3               monitoring each of the one or more access ports configured with rapid forwarding  
4    for receipt of a configuration bridge protocol data unit (BPDU) message; and

5               in response to receiving a BPDU message at one of the access ports configured  
6    with rapid forwarding, placing the respective access port in a blocking spanning tree port  
7    state.

- 1    22. (ORIGINAL) The computer readable medium of claim 21 wherein
- 2                 the intermediate network device has a memory, and
- 3                 the configuration of ports as access ports with rapid forwarding is stored at the
- 4                 memory.
  
- 1    23. (ORIGINAL) The computer readable medium of claim 21 comprising further pro-
- 2        gram instructions for placing one or more other ports in a listening spanning tree port
- 3        state, upon initialization of the device.
  
- 1    24. (ORIGINAL) The computer readable medium of claim 20 wherein each access port
- 2        configured with rapid forwarding is placed in the forwarding state prior to a link-up sig-
- 3        nal being received at the respective port.
  
- 1    25. (ORIGINAL) The computer readable medium of claim 20 comprising further pro-
- 2        gram instructions for generating and issuing one or more configuration bridge protocol
- 3        data unit (BPDU) messages from each access port configured as rapid forwarding.
  
- 1    26. (ORIGINAL) The computer readable medium of claim 20 wherein an end station is
- 2        not coupled to a selected one of the access ports configured with rapid forwarding until
- 3        after the respective access port is placed in the forwarding spanning tree port state.
  
- 1    27. (ORIGINAL) The computer readable medium of claim 26 comprising further pro-
- 2        gram instructions for generating and issuing one or more configuration bridge protocol
- 3        data unit (BPDU) messages from each access port configured as rapid forwarding.

- 1    28. (NEW) A method comprising:
  - 2               configuring one or more ports of a network device as access ports;
  - 3               configuring one or more access ports to have a rapid forwarding designation;
  - 4               identifying the ports that have been configured as access ports with rapid forward-
  - 5               ing designation; and
  - 6               upon initialization of the network device, placing each identified access port with
  - 7               rapid forwarding designation directly into a forwarding spanning tree port state, without
  - 8               transitioning such identified ports between any intermediary spanning tree port states, to
  - 9               enable network messages to be received and forwarded by such identified ports immedi-
  - 10             ately.
- 1    29. (NEW) The method of claim 28 further comprising:
  - 2               monitoring each of the one or more access ports configured with rapid forwarding
  - 3               port designation for receipt of a configuration bridge protocol data unit (BPDU) message;
  - 4               and
  - 5               in response to receiving a BPDU message at one of the access ports configured
  - 6               with rapid forwarding designation, placing the respective access port in a blocking span-
  - 7               ning tree port state.
- 1    30. (NEW) The method of claim 28, wherein the step of configuring one or more access
- 2    ports further comprises:
  - 3               selecting with a management protocol, by a network administrator, the one or
  - 4               more access ports to have rapid forwarding designation.
- 1    31. (NEW) The method of claim 28 further comprising:
  - 2               transitioning one or more other access ports that do not have rapid forwarding

- 3 designation to a listening spanning tree port state, upon initialization of the device.
  
- 1 32. (NEW) The method of claim 28, wherein each access port configured with rapid for-  
2 warding designation is placed in the forwarding state prior to a link-up signal being re-  
3 ceived at the respective port.
  
- 1 33. (NEW) The method of claim 28 further comprising:  
2 issuing one or more configuration bridge protocol data unit (BPDU) messages  
3 from each access port configured to have rapid forwarding designation.
  
- 1 34. (NEW) The method of claim 28, wherein an end station is not coupled to a selected  
2 one of the access ports configured with rapid forwarding designation until after the re-  
3 spective access port is placed in the forwarding spanning tree port state.
  
- 1 34. (NEW) An apparatus comprising:  
2 a port configuration entity operable to maintain configuration data that indicates  
3 one or more ports of the apparatus are access ports, and that one or more of the access  
4 ports have a rapid forwarding designation;  
5 an enhanced spanning tree entity operable to query the port configuration entity  
6 and to identify the ports that have been configured as access ports with rapid forwarding  
7 designation; and  
8 a state machine engine operable to place each identified access port with rapid  
9 forwarding designation directly into a forwarding spanning tree port state, without transi-  
10 tion of such identified ports between any intermediary spanning tree port states, to enable  
11 network messages to be received and forwarded by such identified ports immediately.

- 1    35. (NEW) The apparatus of claim 34 wherein the enhanced spanning tree entity is fur-  
2    ther operable to monitor each of the one or more access ports configured with rapid for-  
3    warding port designation for receipt of a configuration bridge protocol data unit (BPDU)  
4    message, and in response to receiving a BPDU message at one of the access ports config-  
5    ured with rapid forwarding designation, to place the respective access port in a blocking  
6    spanning tree port state.
  
- 1    36. (NEW) The apparatus of claim 34 further comprising:  
2         a management protocol operable to permit a network administrator to select the  
3         one or more access ports to have rapid forwarding designation.
  
- 1    37. (NEW) The apparatus of claim 34 wherein the state machine engine is further oper-  
2    able to transition one or more other access ports that do not have rapid forwarding desig-  
3    nation to a listening spanning tree port state, upon initialization of the device.
  
- 1    38. (NEW) The apparatus of claim 34 wherein the state machine engine is operable to  
2    place each identified access port with rapid forwarding designation into the forwarding  
3    spanning tree port state prior to a link-up signal being received at the respective port.
  
- 1    39. (NEW) The apparatus of claim 34 wherein the state machine engine is operable to  
2    place each identified access port with rapid forwarding designation into the forwarding  
3    spanning tree port state while the respective port is uncoupled from any end station.
  
- 1    40. (NEW) An apparatus comprising:  
2         means for configuring one or more ports of a network device as access ports;

3       means for configuring one or more access ports to have a rapid forwarding design-  
4   nation;

5       means for identifying the ports that have been configured as access ports with  
6   rapid forwarding designation; and

7       means for placing each identified access port with rapid forwarding designation  
8   directly into a forwarding spanning tree port state upon initialization of the device, with-  
9   out transitioning such identified ports between any intermediary spanning tree port states,  
10   to enable network messages to be received and forwarded by such identified ports imme-  
11   diately.